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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,541	03/29/2004	Mark Aston	16515/95349-01	5305

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EXAMINER

SANEI, HANA ASMAT

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/813,541		ASTON, MARK	
	Examiner		Art Unit	
	Hana A. Sanei		2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/026,919.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/21/04; 9/14/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in its parent application 10/026919.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed tilt angle, θ , must be shown. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Partial overlapping display tiles of organic light emitting device.

Claim Objections

Claims 3-14, 18 are objected to because of the following informalities: The elements "the first portion" and "the second portion" disclosed in the claims lack antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 and any depending claims therefrom are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Firstly, Examiner is unclear whether applicant's tilt angle, θ , is equal to the compound angle, θ_c . If this is not the case, applicant's specification fails to expressly convey the relationship between the respective tilt angle and the compound angle. For purposes of examination, Examiner will assume that the tilt angle θ , is equal to the compound angle, θ_c . Secondly,

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Examiner refers to applicant's formula of the claimed tilt angle, θ , (Page 2, lines 15-17) as inadequate to define a distinct angle. In the known art, all corresponding display tiles inherently possess some reasonable length, l , some width, w , and some thickness, t . That any display tile should be angled automatically merits satisfying the general conditions of the applicant's tilt angle, θ , simply because any display tile in question already possesses the pre-determined dimensions l , w , and t required for determining the tilt angle. For purposes of examination, Examiner interprets any display tile that has any tilt angle, θ , from 0° to 360° , as a display tile that inherently meets the requirements of the formulaic identity proposed by the applicant.

Claims 3, 7-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification teaches a tilt angle of "less than" $12^\circ/3^\circ/3.5^\circ$. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims because the term "less than" $12^\circ/3^\circ/3.5^\circ$ respectively encompasses a wide range from 0° to $12^\circ/3^\circ/3.5^\circ$, therefore the burden is shifted to the examiner to determine the upper limit for "greater than" without undo experimentation.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-2, 4-6, 9-12, 16-23, 27 are rejected under [I] 35 U.S.C. 102(b) as anticipated by or, in the alternative, under [II] 35 U.S.C. 103(a) as obvious over Bayrle et al (US 2002/0118320 A1).

Please Note: The purpose of this rejection is because the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties that anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to the applicant (see MPEP §§ 2112-2112.02).

[I] With respect to Claim 1, Bayrle teaches a plurality of display tiles (2, see at least Figs.1-4), each tile (2) comprising a portion (overlap zone, 3 & distance "d" Fig. 4) to support a display region incorporating an organic light emitting device (OLED, 30 of Fig. 5; [0027]-[0028]) material with a plurality of separately addressable pixel elements (individually controllable pixels 12, Fig. 2), wherein the portion is at a tilt angle, θ , to the main plane of the display, wherein: $\theta = \tan^{-1} [\sqrt{(l^2 + w^2)/3t}]$ l being the tile length, w being the tile width and t being the tile thickness (refer to Fig. 7). That any corresponding display tile possess some reasonable length, l, some width, w, and some thickness, t, ensures that the display tile will meet the requirements set forth by the

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claimed tilt angle, if a specific tilt angle, between 0° to 360° is designated. Therefore, it is inherent that the representational tilt angle (as displayed in Fig. 2) taught by Bayrle is consistent with the applicant's tilt angle in order to compensate for the additional width due to the presence of an electrical connection area on one edge of the display elements (Col. 1, lines 62-65).

[II] In the alternative, the claims are also obvious over Bayrle. Although Bayrle lacks the specified values of the tilt angle, it is well known in the art to vary the tilt angle (Par [0034]) of the display tile to compensate for the additional width due to the presence of an electrical connection area on one edge of the display elements. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the tilt angle, as disclosed by Bayrle.

With respect to Claim 2, Bayrle teaches that a tilt angle θ comprises a compound angle θ_c having a horizontal tilt angle θ_h and a vertical tilt angle θ_v (see at least Fig. 7). It should be noted that the horizontal and vertical components of the compound angle are inherently characteristic of the compound angle.

With respect to Claim 4, Bayrle teaches that the first portion is at a compound tilt angle θ_c which is in the range of 0.5° to 12° ([0034]).

With respect to Claim 5, Bayrle teaches that the first portion is at a compound tilt angle θ_c which is in the range of 0.5° to 6.0° ([0034]).

With respect to Claim 6, Bayrle teaches that the first portion is at a compound tilt angle θ_c which is in the range of 3.0° to 3.4° ([0034]).

With respect to Claim 9, Bayrle teaches that the first portion and the second portion of a tile are in substantially parallel planes (refer to at least Fig. 7).

With respect to Claim 10, Bayrle teaches the first (16) and second portions (18) of a tile are in a stepped relationship (refer to at least Fig. 7).

With respect to Claim 11, Bayrle teaches that the first (16) and the second portions (18) are arranged generally in a U-shape (see at least Fig. 4, when considering the overlaying outer peripheral portions of the first and second portions).

With respect to Claim 12, Bayrle teaches the second portion (18) incorporates electrical connections (control circuit, 10 connected to ribbon conductors 35).

With respect to Claim 16, Bayrle teaches the pixel elements (12) have integral means to generate illumination (10).

With respect to Claim 17, Bayrle teaches a means to effect back lighting illumination (24) of a plurality of pixel elements (12).

With respect to Claims 18-19, Bayrle teaches a plurality of display regions (2, see at least Figs. 1-4), each incorporating organic light emitting device (OLED, 30 of Fig. 5; [0027]-[0028]) material, each region comprising: a plurality of separately addressable pixel elements (individually controllable pixels 12, Fig. 2); and one or more of the display region(s) overlying a portion of one of more adjacent display region(s) wherein the first portion (16) and the second portion (18) of a tile are not in the same plane and the first

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portion is at a tilt angle θ (refer to Fig. 7) to the main plane of the display for the second portion to underlie part of another tile (overlap zone 3, Fig. 4).

With respect to Claims 20, Bayrle teaches that portions of display areas which lie underneath other display areas (overlap zone, 3) incorporate electrical connections (control circuit, 10 connected to ribbon conductors 35).

With respect to Claims 21, Bayrle teaches a plurality of display regions (plurality of 2) which overlie part of a display region (overlap zone, 3) of a laterally adjacent display region (one of 2).

With respect to Claims 22, Bayrle teaches that the display regions form a substantially continuous display surface over the array (see at least Fig.1 & 5).

With respect to Claims 23, Bayrle teaches a plurality of OLED pixel array tiles (see at least Fig. 5). That there is a repetitive overlap zone, with the illumination element (OLED, 30 of Fig. 5; [0027]-[0028]) present throughout the display panel, Bayrle teaches a plurality of "OLED pixel array tiles."

With respect to Claims 27, Bayrle teaches that the main plane of the display comprises a plane incorporating the nearest point of each OLED display first portion to an observer of the display (see at least Fig. 7 & 5). It should be noted that since Bayrle satisfies the conditions set forth in the applicant's independent claim 1, Bayrle inherently teaches that the main plane of the display comprises a plane incorporating the nearest point of each OLED display first portion to an observer of the display.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bayrle et al (US 2002/0118320 A1) in view of Boisdron et al (US 5673091 A).

Bayrle teaches the invention set forth above (see rejection in Claim 1 above) and further teaches a tile (2, see at least Fig. 5) to hold a panel (carrier plate, 18) of OLED panel (30). Bayrle is silent regarding the composition of the OLED panel. In the same field of endeavor, Boisdron teaches a glass panel (glass plate, 16/18; Fig. 1b) in order to ensure sufficient transparency for luminescence. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the composition of the OLED panel, as disclosed by Boisdron, in the display of Bayrle in order ensure sufficient transparency for luminescence and to choose from one of the materials disclosed by Boisdron, since Boisdron teaches the suitability of using a panel formed of a glass and it has been held to be within the general skill of an artisan to select a known material on the basis of the intended use. See MPEP 2144.07.

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bayrle et al (US 2002/0118320 A1) in view of Boisdron et al (US 5673091 A) in further view of Matsumoto et al (US 2003/0043316 A1).

Bayrle teaches the invention set forth above (see rejection in Claim 1 above). Bayrle lacks a moulded holder. In the same field of endeavor, Boisdron teaches a moulded holder (spacer, 41 see at least Fig. 4) in order to ensure mechanical stability of the device. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, add the moulded holder, as disclosed by Boisdron, in the display of Bayrle in order to ensure mechanical stability of the device.

Bayrle-Boisdron lack the moulded holder formed of a plastic material. In the same field of endeavor, Matsumoto teaches a moulded holder (spacer, 30 see at least Fig. 5E) of a plastic material ([0042]) in order to improve flexibility of the device. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, modify the composition of the moulded holder, as disclosed by Matsumoto, in the display of Bayrle-Boisdron in order to improve flexibility of the device and to choose from one of the materials disclosed by Matsumoto, since Matsumoto teaches the suitability of using a moulded holder formed of a plastic material and it has been held to be within the general skill of an artisan to select a known material on the basis of the intended use. See MPEP 2144.07.

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bayrle et al (US 2002/0118320 A1) in view of Vicentini et al (US 2004/0252113 A1).

Bayrle teaches the invention set forth above (see rejection in Claim 1 above). Bayrle lacks a heat seal. In the same field of endeavor, Vicentini teaches a heat seal ([0055]) in order to ensure sufficient durability of interconnecting. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add

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the heat seal, as disclosed by Vicentini, in the display of Bayrle in order to ensure sufficient durability of interconnecting.

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bayrle et al (US 2002/0118320 A1) in view of Aoki et al (US 20050110702 A1).

Bayrle teaches the invention set forth above (see rejection in Claim 1 above). Bayrle lacks electronic paper tiles. In the same field of endeavor, Aoki teaches of electronic paper tiles ([0038]) in order to ensure lower power consumption ([0038]). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the electronic paper tiles, as disclosed by Aoki, in the display of Bayrle in order to ensure lower power consumption.

6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bayrle et al (US 2002/0118320 A1) in view of Smith et al (US 20050140610 A1).

Bayrle teaches the invention set forth above (see rejection in Claim 1 above). Bayrle lacks a passive matrix display device. In the same field of endeavor, Smith teaches a passive matrix display device ([0006]) in order to ensure the impression of a steady image ([0005]). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the passive matrix display device, as disclosed by Smith, in the display of Bayrle in order to ensure the impression of a steady image.

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boisdron et al (US 5673091) in view of Guberman et al (US 20020074937 A1).

Boisdron teaches a plurality of display tiles (20, see at least Fig. 2), each of said display tiles further including: a support member (top face, 40; Fig. 4); a printed circuit board positioned on said support member (Col. 3, lines 32-36); a panel having an luminescent element (liquid crystal element, 10) operatively connected to said circuit board at a tilt angle θ to the main plane (representation of Fig. 2) of the display for the printed circuit board to underlie part of another tile; and wherein said display tiles are positioned in an overlapping array to form a substantially two-dimensional display (refer to Fig. 2).

Boisdron lacks an OLED element. In the same field of endeavor, Guberman teaches an OLED element (EL-organic system, ([0016])) in order to ensure improved luminescence efficiency. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the OLED element, as disclosed by Guberman, in the display of Boisdron in order to ensure improved luminescence efficiency.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hana A. Sanei whose telephone number is (571) 272-8654. The examiner can normally be reached on Monday- Friday, 9 am - 5 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner
Hana A. Sanei

 2/3/06


JOSEPH WILLIAMS
PRIMARY EXAMINER